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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,917	02/04/2004	Harald Schlag	8540G-000216	3490
27572 7590 02/25/2010 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
EXAMINER				
CONLEY, O'K				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
02/25/2010		PAPER		

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HARALD SCHLAG

Appeal 2009-006298
Application 10/771,917
Technology Center 1700

Decided: February 25, 2010

Before KAREN M. HASTINGS, MICHAEL P. COLAIANNI, and
JEFFREY B. ROBERTSON, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 through 14 and 25 through 38, which are all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

We AFFIRM.

STATEMENT OF THE CASE

The subject matter on appeal is directed to a fuel cell. Claim 1 is illustrative:

1. A fuel cell, comprising:

a first polymer electrolyte membrane (PEM);

a plate having a first series of flow channels formed in a first surface and defining a first series of land portions disposed between and separating adjacent flow channels;

a first diffusion medium that is disposed between said first PEM and said plate and that is in direct contact with said first surface; and

a first sealing layer adhered to said land portions of said plate to secure said direct contact between said first diffusion media and said plate and to seal said first surface.

Appellant appeals from the Examiner's decision rejecting claims 1-14 and 25-38 under 35 U.S.C. § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) over Schmid (US 6,495,278 B1, issued on Dec. 17, 2002).

Appellant's arguments focus on independent claims 1 and 25. Accordingly, we address Appellant's arguments regarding the rejections with respect to these claims only. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2009).

ISSUE

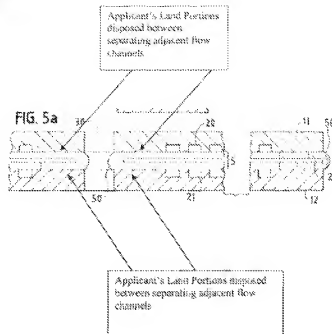
Has Appellant identified reversible error in the Examiner's determination that Schmid teaches "flow channels," "land portions," and a "sealing layer" as recited in independent claims 1 and 25? We decide this issue in the negative.

FINDINGS OF FACT

1. The Specification discloses that
cathode flow channels . . . suppl[y] the oxidant feed gas to one PEM The anode flow channels . . . suppl[y] the hydrogen feed gas to an adjacent PEM Coolant flow channels . . . facilitate coolant flow through the fuel cell.

(Spec. ¶ [0024]).
2. Schmid teaches that the fluid manifold is for, *inter alia*, the supply of "fluid streams." (Schmid, col. 9, ll. 29-30). These fluid streams may include, *inter alia*, a reactant or "a cooling medium." (Schmid, col. 2, ll. 18-26).
3. Appellant does not specifically dispute the Examiner's statement that "Exhibit B, submitted by the Examiner . . . clarif[ies] the interpretation of [the Examiner that] Fig. 5a in the Schmid reference . . . discloses the land portions disposed between [and] separating adjacent flow channels." (*Compare* Ans. 8 with App. Br. 5-7 and Reply Br. 2-4). The Examiner's Exhibit B is reproduced below:

EXHIBIT B



The Examiner's Exhibit B depicts Schmid's Figure 5a marked-up to identify land portions. Exhibit B shows, *inter alia*, adhesive bonding agent 50 (sealing layer) adhered to the land portions, which are located directly above and below the adhesive bonding agent 50 (sealing layer) and between fluid manifold opening 30 and grooves 20 and 21.

PRINCIPLES OF LAW

"During examination, 'claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)(quoting *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)). As also stated in *In re Morris*:

[T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their

ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

127 F.3d 1048, 1054 (Fed. Cir. 1997).

ANALYSIS AND CONCLUSION

With respect to the §§ 102 and 103 rejections, Appellant argues that

Schmid clearly indicates and Figure 2 clearly shows that element (30) is a fluid manifold opening, not a flow channel as claimed. Rather . . . elements (20) and (21) are . . . flow channels in Schmid and teach away from the interpretation of Schmid suggested by the Office Action.

(App. Br. 7). In other words, Appellant argues that Schmid's fluid manifold opening 30 does not meet the flow channel feature required by claims 1 and 25. In addition, Appellant argues that Schmid teaches away from interpreting Schmid's fluid manifold as meeting the flow channel feature because Schmid teaches that elements 20 and 21 are flow channels.

To address these arguments, we begin by construing the claim term "flow channel." This term is not expressly defined in the Specification. (Spec. *generally*). While Appellant's illustrated examples show semi-circular shaped flow channels (Fig. 4, ref. no. 28, 32) these examples are not read into the claims. Rather, the broadest reasonable meaning of this term in its ordinary usage is "a route through which fluid flows" as the Examiner properly determined. (Ans. 10). *See, e.g.*, The Random House College Dictionary (Ballantine Books, 1980) (channel defined as "a route through which anything passes or progresses") (cited as evidence by the Examiner at page 3 of the Answer). Though Appellant contends that another definition

of “channel” is more appropriate¹, the Examiner’s interpretation is reasonable in light of the Specification as the Specification plainly states that a flow channel may supply feed gas or a coolant flow (i.e., it is a route through which the fluid passes or progresses). (FF 1).

In light of this proper construction of the term “flow channel”, the Examiner’s determination at page 10 of the Answer that “[Schmid’s] fluid manifold that delivers fluid into each fuel cell can be construed as a flow channel” is consistent with the proper construction of this disputed claim term. *See Morris*, 127 F.3d at 1054. Schmid teaches that the fluid manifold supplies “fluid streams,” which may include, *inter alia*, a reactant or “a cooling medium.” (FF 2). Though Schmid also teaches that grooves 20 and 21 are flow passages, such disclosure does not change the fact that fluid manifold 30 also functions as a flow channel and thus does not teach away from interpreting fluid manifold 30 as being a flow channel. Thus, because the Examiner properly construes the term “flow channel” to be a route through which a fluid stream (e.g., a reactant or a cooling medium) flows, Appellant’s argument is without persuasive merit.

Appellant also argues that “Schmid fails to teach or suggest the sealing layer of claims 1 and 25.” (App. Br. 5). In particular, Appellant argues that “‘sealing layer 50’ is not located between adjacent flow channels and adhered to the land portions as claimed. Rather, the ‘sealing layer 50’ surrounds an outer periphery of the MEA (5).” (App. Br. 6).

¹ Appellant refers to the another definition of “channel” stated in the Random House Dictionary cited by the Examiner as including “any structural member having the form of three sides of a rectangle.” (Reply Br. 4). However, Appellant admits that the claimed invention is not limited to channels of rectangular cross-section. (Reply Br. 4).

However, Appellant's argument that the sealing layer is not adhered to the land portions fails to address specifically the Examiner's determination that Exhibit B shows adhesive bonding agent 50 (sealing layer) adhered to the land portions, which are located directly above and below the adhesive bonding agent 50 (sealing layer) and between fluid manifold opening 30 and grooves 20 and 21. (FF 3). Thus, Appellant has not identified reversible error in the Examiner's determination that the area between fluid manifold 30 and grooves 20 and 21 are lands.

With respect to Appellant's argument that the sealing layer is not located between adjacent flow channels, in reference to our above discussion and claim construction, the Examiner's Exhibit B shows an adhesive bonding agent 50 (sealing layer) located between a fluid manifold opening 30 (flow channel) and groove 20 (also a flow channel). (*See* FF 3). Accordingly, Appellant's argument is without persuasive merit.

Thus, it follows that Appellant has not identified reversible error in the Examiner's determination that Schmid teaches "flow channels," "land portions," and a "sealing layer" as recited in independent claims 1 and 25.

DECISION

For the above reasons, the Examiner's decision to reject claims 1-14 and 25-38 are sustained.

Accordingly, the Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(2009).

Appeal 2009-006298
Application 10/771,917

AFFIRMED

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